Could Your Child’s Mental Health Be Infection-Driven? Transcript

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Opening: Mental Health Symptoms as Medical Clues

So what are the most important messages you want families and practitioners to take away about the biological basis of mental health issues and kids, and where we're filling them?

I think the most important message is that sudden onset psychiatric symptoms in previously healthy children should trigger an infectious disease workout, not just a psychiatric evaluation.

Illnesses do not appear overnight, but autoimmune encephalitis from infection does. And unfortunately, psychiatry is one of the few specialties that we don't routinely run physiological tests or evaluate the primary organ, which is the brain.

So we're failing these children by just accepting the psychiatric labels without investigating the root causes. So when a child, like a 10-year-old, suddenly develops severe OCD literally overnight, that's not a psychiatric illness.

That's a medical illness affecting the brain. So that child needs a medical workup. not just a psychiatric evaluation. And parents need to trust their instincts.

Parents know their kids better than anyone. So if they've fundamentally changed after an illness or a camping trip or moved to a new area, push for infection testing, regardless of what the first practitioner that they see says.

And then for practitioners, that paradigm shift needs to happen. So start thinking of the brain as an organ that can become infected, that can become inflamed, not just a site of chemical imbalances.

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. Welcome back to Lime Bites, Rebuilding Immunity, Reversing Inflammation, and Redefining Recovery.

Today, we're exploring a deeply misunderstood but increasingly recognized phenomenon, the presentation of Lyme disease and other vector-borne infections as psychiatric disorders.

From sudden onset OCD and anxiety to depression, rage, and even psychosis, what is often labeled as mental illness may in fact be the result of an inflamed brain driven by persistent infections, immune dysregulation, and environmental triggers.

Joining us on this episode is Dr. Zendi Moldenhauer. a nationally recognized expert in pediatric functional psychiatry, and the founder of Arbor Health in Rochester, New York.

With over 25 years of clinical experience and advanced training in functional medicine, integrative psychiatry, and neuroimmune disorders, Dr. Zendi has become a trailblazer in uncovering the biological roots of mental health symptoms in both children and adolescents.

How Infections Drive Neuroinflammation

And this episode will break down how infections like Borrelia, Bartonella, and mycoplasma can drive neuropsychiatric symptoms through mechanisms like molecular mimicry, microglial activation, and chronic neuroinflammation.

We'll also explore how environmental exposures like mold, gut dysbiosis, and nutritional imbalances compound these issues. And most importantly, how a root cause integrative approach can bring clarity and healing where traditional psychiatry falls short.

This is Lyme Bikes. Let true healing begin. Thank you so much for being here, Zendi. You know, you shared with me this alarming statistic that up to 40% of patients with Lyme disease alone, so not to mention co-infections, are misdiagnosed with primary mental health disorders.

I knew it was big, but that number really blew my mind. Well, thank you so much for having me. And yes, I'm passionate about the subject and I look forward to our conversation.

Wonderful. So let's start out by talking about how infections like Lyme, Bartonella and Mycoplasma can trigger neuroinflammation in the brain and what role the microglia activation and cytokine of balance play in these psychiatric symptoms.

Well, that's a great question. These pathogens essentially turn the brain's immune system against itself. When Borrelia crosses the blood-brain barrier, which as you know can happen within 24 hours of being bitten, it activates the resident immune cells called the microglia.

The microglia cells are the brain's first responders to injury and disease and they constantly are surveilling the brain environment, acting like a sentinel to detect the pathogen and repair cellular damage and other threats.

So in response to this injury or infection, the microglia become activated and they release lots of pro-inflammatory cytokines like IL-1-beta, TNF alpha, IL-6 resulting in that neuroinflammation.

So here's the devastating cascade. This inflammation hijacks tryptophan metabolism through the chironine pathway, shifting the production from serotonin towards quinoloic acid, which is literally neurotoxic.

Meanwhile, the chronic activation of those microglial results in this sort of self-perpetuating cycle of neuroinflammation, and that can exist way after the initial infection.

Now, Bartonella adds another layer by infecting the endothelial cells within the blood vessels, creating microvascular injury, while mycoplasma, similar to strep, can trigger molecular mimicry, where the antibodies actually attack the neural tissue.

So the result, as you can imagine, is this perfect storm of inflammation that disrupts neurotransmitter synthesis, damages neural networks. So suddenly, your dopamine, your serotonin, your GABA systems, the very chemicals that regulate mood, anxiety, and thought processes are completely thrown off balance, and that creates the symptoms that we observe like depression, anxiety, and psychosis.

So as far as additional psychiatric symptoms like OCD, rage, anxiety, things like that, can you further explain how like this immune dysregulation can actually cause symptoms like that?

Absolutely. So children's developing immune systems make them particularly vulnerable to the inflammatory cascade. Dr.

Recognizing Infection-Driven vs Primary Psychiatric Illness

Jennifer Frankovich's research from Stanford Medicine shows that elevated levels of the cytokines directly correlate with the severity of OCD symptoms in parents' patients.

The basal ganglia, that deep part of the brain which control movement, behavior, emotions, are especially susceptible to this inflammation. So when those cytokines cross the blood-brain barrier, they target those dopaminergic pathways in the basal ganglia, creating those repetitive behaviors that we see in OCD.

Now, autoantibody production is particularly sneaky. Through molecular mimicry, those antibodies, which are meant to fight strep or mycoplasma or Bartonella, cross-react with the neural tissue, specifically targeting those dopamine receptors in the basal ganglia.

So this creates what's called autoimmune encephalitis that manifests as those acute psychiatric symptoms like OCD or acute or severe anxiety or even restrictive eating that mimics eating disorders, severe depression, cognitive and behavioral changes.

And I've even seen catatonia and psychosis. Now, when it comes to Bartonella, we see more rage. Bartonella tends to involve disruption more of the frontal, prefrontal cortex.

And due to chronic neuroinflammation affecting the GABA and serotonin systems, we see that sort of more intense rage and anger. But we've got to remember that this is not behavioral.

This is biological brain dysfunction. Are you ready to revolutionize your approach to diagnosing and healing complex chronic inflammatory illnesses in both adults and children?

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Lion Bites is the premier functional medicine conference on complex, chronic, infection-driven inflammatory illnesses. This year's meeting is jam-packed with leading industry experts discussing lung COVID, mycotoxin illness, PANS Pandas, as well as Lyme and other vector-borne diseases.

This conference will arm you with the knowledge, clinical pearls, and practical solutions that you can implement immediately into your practice Monday morning that will literally change your patient's lives and get them on their path to true healing.

So join us at Pompano Beach or virtually from anywhere. Register now at LymeBytes.com. That's L-Y-M-E-B-Y-T-E-S dot com. So how do you, in the role that you're in, how are you able to distinguish between what is primary psychiatric illness and what is infection-driven?

Because as we're talking about, this goes way beyond Lyme. This goes way beyond Borrelia. There's all of these other vector-borne diseases, and then there's even a common, you know, bacteria strep that can, through molecular mimicry and other immune dysregulation issues, you know, cause a lot of this abrupt onset of neuropsychiatric symptoms as well.

So how do you distinguish Oh, great question. And we were talking ahead of time about the fact that up to 40% of Lyme patients initially receive a psychiatric diagnosis instead of proper Lyme identification and treatment.

So it's absolutely staggering that most people, including many practitioners, have no idea that's happening. The most common misdiagnoses that I see are ADHD-like cognitive changes where children are suddenly struggling with schoolwork or focus.

Now ADHD, remember, doesn't come on suddenly. Usually you see symptoms that are there. before five to seven years of age, we see that in kindergarten, we see that in preschool, we're not going to have a sudden onset of cognitive changes where kids are suddenly struggling with schoolwork or focus, or sudden onset oppositional defiant disorder, or severe behavioral or mood dysregulation, or out of the blue bipolar disorder, or OCD.

So the key differentiator here is the timeline. These previously healthy children who develop symptoms acutely or subacutely over a period of days to weeks, we've got to be thinking not primary psychiatric disorders, but rather something medical going on.

Primary psychiatric disorders simply usually have a more insidious or slower onset over months to even years. Often there's a similar family history and infection-driven symptoms kind of come on out of the blue.

Often parents will say, you know, it's like an overnight change. Suddenly their child becomes a completely different person over a short period of time.

The other thing that I think is important is primary psychiatric disorders don't usually come with a bunch of physical symptoms. And so we've got to be looking for those physical clues like joint pain or headaches or fatigue or GI symptoms or enuresis, you know, suddenly wetting the children suddenly wetting themselves either during the day or during the night, that's not common with a primary psychiatric disorder, but it's really common with acute neuroinflammation of the brain.

So looking for those physical symptoms, I think, is really important because they suggest more systemic inflammation rather than the primary mental illness.

Another key feature I would say would be the cyclical nature.

Lyme, Bartonella, Babesia, and Mycoplasma Symptom Patterns

Infection-driven symptoms often wax and wane, sometimes correlating with antibiotic treatment or some other immune system fluctuation, whereas primary psychiatric disorders tend to be more stable in their presentation.

And I think one other thing to think about is geographical or seasonal clustering. When multiple children in the same area suddenly develop symptoms around the same time, we've got to be thinking infectious triggers.

It's not like OCD or depression has this sort of seasonal or geographic preponderance, but Lyme disease does. I think when children walk into a primary care office or into a psychiatrist's office and then suddenly just gets put on psychiatric medication, but then underlying infection is never addressed, it's like pouring gasoline onto a house fire.

It rages out of control without ever getting to that root cause, which I just think is just such a disservice to our children. Yeah, absolutely. And it's going to go on to manifest as other things as well.

Absolutely. To recap for our listeners, so if we're trying to distinguish between an infection-driven psychiatric issue versus primary, so infection-driven is going to be more abrupt versus slow onset.

We're also going to see other systemic symptoms, so other body or physical symptoms, even something like sweats, fevers, chills, right? It doesn't actually just have to be a pain syndrome.

Often, if it's infection-driven, symptoms will come and go, which is not typically seen with a primary psychiatric issue. We can have geographic clusters that are infection-driven, like, for example, if COVID, for example, were the culprit, right?

So we might see it amongst groups of people. And then another, a big one that we haven't talked about yet is failure to respond to the typical treatment of choice, right?

So if you were to put someone on a typical psychiatric medication, you know, that should work. You don't see really any response or you might see an exacerbation.

So that's another big, big red flag. Right. Anything else to add to that list? What is such a pity, Mariah, is just imagine the life course of somebody who's diagnosed correctly versus incorrectly.

And I see this over and over again with the kids that come and see me. They have a particular diagnosis. And if they're not treated correctly because of the underlying trigger, you can imagine that kid gets put on one psychiatric medication, another, another, a hospitalization therapy, another psych med versus a kid that's correctly identified and you treat the underlying trigger like Lyme disease, that kid gets better.

So it just for me is so heartbreaking to kind of imagine the life trajectory Not only for that child, but that family nearly even and their children. And so that's why I wish more people knew to look for Lyme disease and tick-borne infections, other infections when, when children, especially when they appear with kind of acute onset psychiatric symptoms.

Yeah, absolutely. And to take it another step further, too, it doesn't just end with that person or with that family because there's vertical transmission.

So if these organisms are not dealt with and that girl goes on to become a woman and goes on to become pregnant and have a baby, that infection can actually be passed.

transplantally to that baby now would be dealing with a case of congenital Lyme or another vector-borne disease, which is going to impact their body and their health and their neuropsychiatric capabilities.

So tell us, what are the differences? So do you see a different psychiatric presentation specifically amongst the infections? So Borrelia versus Bartonella versus Mycoplasma versus Babesia versus say Strep?

Yeah, absolutely, I do. So with Borrelia, also known as the great imitator, as you know, it creates what I call psychiatric Lyme with treatment resistant depression affecting up to 60% of patients.

So those are the kids that just do not respond to typical antidepressants. Another key feature for Borrelia is brain fog, really severe so people can't remember their own phone numbers or their math facts.

And suicide risk is double compared to the general population, often seen sleep disturbances and non-restorative sleep. So the core cluster, I would say, for Borrelia, like classic line, would be cognitive dysfunction, executive planning issues, word finding issues and feeling like people speaking about like they've suddenly lost 50 IQ points overnight.

What are some of the psych symptoms that you have seen in your patients with classic Lyme disease before I go on to the co-infections? Are you suffering from Lyme disease or another complex chronic illness and aren't sure who to trust when it comes to herbal supplements?

Hi, I'm Dr. Mariah Hinchey, founder of Lyme Core Botanicals. As a naturopathic physician specializing in complex chronic infection-driven illnesses like Lyme disease, I needed herbal medicine I could truly trust.

That's why I formulated Lyme Core Botanicals. where our herbal tinctures are handcrafted in small batches right here in Connecticut. We use the whole herb, never isolates, to preserve the full spectrum of medicinal compounds.

Every single step from sourcing to extraction is done with precision to ensure maximum purity, potency, and consistency. These are the same herbal formulas I used to heal myself and have used for years to help my patients and family members heal, too.

And now I'm making them available to practitioners and patients everywhere.

PANS and PANDAS: Autoimmune Neuropsychiatric Syndromes

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I would say they're very, very similar. So a lot of the depression, anxiety, not anxiety, you know, to the point that you would see it with babesia or bartonella, not like this panic, but more like this low level of, you know, just you're anxious, but you don't really know about what, you can't put your finger on it, but it's more of like a mild, right?

And then exactly, you know, executive functioning issues, issues following instructions, like simple instructions, you know, like here's three or four steps.

And instead of, you know, being able to just say, OK, I'm going to go and do this. It's like you keep referring back, like you can't remember what you just read or, you know, retaining like reading comprehension and things like that.

a lot of brain fog, a lot of, you know, feeling like things are just sort of swarming in your head and they don't stop.

And it's a lot of cognitive overwhelm, I think.

So you can imagine in children that looks like ADHD. Yeah, not focusing, not remembering, needing repetition. And that's completely, you know, that's not how ADHD suddenly appears, but that's a common misdiagnosis with classic Lyme disease because of that cognitive dysfunction.

Now compare that to Bartonella, which of course we know as the rage pathogen. That's the one where parents will tell me their sweet eight-year-old suddenly is screaming, I hate you, I want to kill you and is raging and is punching holes in the wall and a complete kind of personality change, if you will.

So the psychiatric triad there is this explosive intermittent anger, much more severe anxiety, often even with agoraphobic school avoidance, and treatment-resistant depression that doesn't respond to SSRIs.

I also see more schizoaffective spectrum disorders with Bartonella, and then of course sleep problems as well. And then remember that pathognomonic red stretch mark lesions in about 80% of cases with kids with Bartonella.

And obviously, we're not going to suddenly see those kind of stretch marks in a primary depression. Like, we've got to be thinking what else is going on there.

But certainly, Bartonella, I see this angry rage out of control over any of the other tick-borne infections. Yeah, I agree with you 100%. So with the bees here, I think of air hunger.

So patients will literally say that they feel like they're suffocating, even though their oxygen levels are normal. So the tip off is when patients just say, I can't get enough breath.

I can't get a full breath. Often we see more temperature dysregulation. And then when with regards to the psychiatric symptom, far more anxiety, including panic attacks, ruminating anxiety, obsessive thoughts that loop endlessly without resolution.

Yes, cognitive dysfunction as well, but more from their sort of intrusive thoughts and the inability to turn off their brain. And when it comes to depression with babesia, there's much more of a sensation of despair and deep sadness.

and more than typical major depression. It's just sort of a deep sadness that will often go. Mycoplasma, I think of the most dramatic presentations like children with PANS, which is pediatric acute onset neuropsychiatric syndrome.

Literally kids can be waking up the next day or within a short period of time, like a two week period with severe OCD. personality changes, school refusal.

And so that's sometimes similar to strep as well. Mycoplasm and strep, I think, share that. So the classic presentation is sudden onset obsessive-compulsive disorder, separation, anxiety, and academic regression.

I also sometimes will see tics, both motor and vocal tics, and then other um, symptoms like sensory symptoms or kids suddenly wetting themselves. Um, what else do you see with, with mycoplasma in your adult population?

From a psychiatric perspective? Um, I would say not much beyond what you've, you know, what you've described from a psychiatric perspective. Yeah. I, with the adult population, yeah, it's, it's not pretty similar.

pretty similar. I see a lot more of respiratory issues, reproductive issues, a lot of micronutrient deficiencies, which obviously can lead to various psychiatric presentations as well.

So as far as pans and pandas go, you know, we kind of danced around it.

Gut-Brain Axis, Testing, and Root-Cause Treatment

We talked about some of the diagnostic criteria. Explain to our listeners, you know, take a step back. What is pans and pandas? And how and where do Lyme and other vector borne infections kind of fit into the broader spectrum of pans and pandas?

Well, PANDAS stands for Pediatric Autoimmune Neuropsychiatric Disorders Associated with STRAP Infections. So that was the originally described syndrome in the 1980s, and usually STRAP is the trigger.

But we now know that that syndrome can be triggered by many other infections that creates autoimmune neuroinflammation, including tick-borne diseases.

So PANS is a broader, bigger umbrella term that stands for pediatric acute onset neuropsychiatric syndrome. So the criteria is broader than just strap, and there's no age limits as well.

So I've definitely seen PANS in adults, not only kids. And In my practice, which is in upstate New York, a Lyme endemic area, I find that tick-borne infections feature in a large percentage, like maybe even as high as 50%. And so I think it's super important when evaluating for pans and pandas that tick-borne infections, both Lyme as well as The co-infections like Babesia, Bartonella, Ehrlichia, Anaplasma, Mycoplasma are all evaluated because they can all play a role in PANS.

The mechanism is similar, whether it's strep or Mycoplasma or tick-borne infections. It's that molecular mimicry leading to those autoantibodies that attack the basal ganglion neurons.

So the end result is similar, which is autoimmune encephalitis presenting with all of those psychiatric symptoms we've just spoken about. So it's recognizing that PANS is a syndrome, not just one diagnosis.

And we've got to be figuring out, I think of it nearly as like a triad, you know, like what is that infectious trigger? Because we've got to identify that.

What is resulting in the inflammation that's ongoing and what is this piece that is that autoimmune reaction where the body is kind of getting hijacked and attacking itself instead of attacking that primary trigger in the first place?

Right. And so you have to resolve the primary trigger. You also have to resolve the inflammation and basically rebalance the immune system in order to get that autoimmune process underway.

Correct. Because you can remove the trigger, but if you don't fix the immune system, you're still going to be stuck in that loop. Right. And I think that's a mistake that's often made.

I think if the focus is just an antimicrobial, whether it's herbal or antibiotics, and that's the only focus, then you can get this recurrent situation that doesn't resolve.

We have to take care of inflammation and that autoimmune process and heal the gut and restore nutrients and attend to detoxification. So it's a complex syndrome to deal with.

It is. It is. And I think that goes for no matter what age you are. And, you know, I would challenge anyone that, you know, it's going to be really hard to fully be able to evict any organism 100%. So maybe eradicate is a better word.

You know, it's going to be hard to eradicate any organism without fixing the immune system, because in the end, It's not a certain combination or dose or amount of time of being on any antimicrobial to your point, herbal or pharmaceutical, that takes an infection rate of anything to zero.

It's your immune system that comes in and eradicates an infection or holds it into remission. So if we don't fix the immune system, we're not even going to be able to get rid of that primary infection.

When it comes to pandas, my thought process is that the reason why strep remains an issue is because of that underlying immune dysfunction or imbalance that stops the body from actually being able to clear a strep infection

in the first place.

Right. All right, let's go back to Bartonella because it's one of my, when we're talking about psychiatric symptoms and implications, Bartonella has to be one of the most fascinating infections.

So let's talk a little bit more about Bartonella and rage. Do you see increasing attention on the psychiatric manifestations of Bartonella in particular.

And in addition to rage, what are the hallmark patterns that you see in these kits? Well, rage is definitely a big piece of it, like literally, it's explosive, it's irrational, anger, it's out of character for that child.

Parents will often describe it like a jackal in high transformation where one moment their gentle child becomes violent over trivial triggers. And then the other psychiatric fingerprint, I think, with Bartonella includes that severe anxiety, often with school refusal.

So, you know, you expect separation anxiety at certain predictable times during a child's life, like, you know, the 18 months to your age. expected there.

You expect it around about kindergarten when kids are separating, but you're not expecting this in an eight-year-old or a 12-year-old or a 15-year-old.

So that separation anxiety, I think, is a hallmark as well. And then just not responding to typical psychiatric medications, so there's treatment-resistant depression.

And then a lot of physical manifestations as well. Kids will often complain of like ice pick headaches, sharp stabbing pains that come and go, sleep disturbances, vivid nightmares, night terrors.

And then it affects them cognitively. So these children develop severe attention deficits and executive dysfunction. So teachers will complain like, Previously, excellent students suddenly can't focus, suddenly don't know their math facts, suddenly can't comprehend with reading or follow those multi-step directions.

And the symptoms, because Bartonella is so sneaky, it can hide in those endothelial cells within the blood vessels, It can stay there sort of smoldering and having this chronic infection and those symptoms can persist for many years.

So when treated, we can see this awesome transformation. I've seen kids go from like psychiatric hospitalization to completely normal functioning within months of targeted and appropriate antimicrobials.

So how did gut health and intestinal permeability influence the neuroimmune responses in these patients? And you can expand this from Bartonella into Lyme and other vector-borne diseases as well.

So the gut-brain axis is absolutely critical in any of these cases. Chronic infection results in what we call leaky gut or increased intestinal permeability that allows those bacterial toxins and incompletely digestive proteins from like casein from milk or gluten from wheat to enter systemic circulation.

further driving inflammation and the misdirected autoimmune response. So I think of any autoimmune condition really beginning in the gut. Often I'll see severe dysbiosis.

So dysbiosis meaning an imbalance between good and bad bacteria. Often, a loss of those protective bacteria, especially bifidobacterium and lactobacillus, are often severely depleted if I do a gut test.

That allows for bad bacteria like bacteria related to small intestinal bacterial overgrowth or yeast, specifically candida, overgrowing and in itself resulting in symptoms like depression, anxiety, brain fog.

Now, nutritionally, if the gut isn't healthy, then the child is not absorbing the vitamins and minerals. And they're

typically deficient in the B vitamins, especially B12 and folate, which, as you know, are crucial for methylation and neurotransmitter production.

Other nutrient deficiencies that I'll often see are magnesium. that contributes to anxiety and sleep issues, but some indeed efficiency is super common and impairs immune function and mood regulation.

And then of course, you know, if kids in addition have genetic SNPs that further impair methylation and detoxification. You've got this vicious cycle where there's toxin accumulation that further impairs gut function, driving more inflammation.

So healing the gut is essential for neuropsychiatric recovery. We've got to restore brain health and gut health. It's not kind of just one or the other.

Right. So when you're treating psychiatric symptoms in children with vector-borne diseases, obviously the gut is one of the main places that you start.

Yeah. Taking that into consideration, and you don't have to go back through everything that you just said, but how do your treatment protocols differ from that of traditional psychiatry?

So what else were you doing to get to the root cause? Right. So the first thing is taking a detailed history and timeline analysis. So we're spending a lot of time like really trying to figure out when did the symptoms start?

Then what preceded those symptoms? Were there any geographical season patterns? really trying to be like a medical detective and that's how I'll describe it to patients and like I'm joining with them to like really figure it out and then they participate.

It's like exciting to kind of come to that diagnosis together. Then I use comprehensive testing including advanced line panels not just the standard ELISA testing, which misses at least 60% of cases.

Key Takeaways for Families and Practitioners

I will follow immune function like tracking CD57 natural killer cells, which is often low in chronic tick-borne illnesses. Sometimes I'll look at for cytokine panels showing elevated IL 1 beta or TNF alpha or IL-6, which correlates with neuroinflammation.

I'll often use organic acid testing because that can help me look at cellular metabolism and neurotransmitter production and microbial overgrowth in the gut.

I'll often look at methylation panels, including looking at B vitamins like B9 and 12 and homocysteine. And then if you're lucky enough to go to Dr. Eamon's clinic, you can get a SPECT scan, but most little practices don't have SPECT scans.

So in our clinic at Arbor Health, we look at quantitative QEEGs. which can reveal specific patterns of brain dysfunction. And so the key is pattern recognition.

We're looking for multiple abnormalities of immune function, inflammation, detoxification, neurotransmitter metabolism. And then when we are treating it, we're peeling back layers of that onion.

It's not just treating the primary infection. We're really having to kind of Address all of those layers to get a true healing like I am so pleased when parents will tell me my kid was exposed to name it strap micro plasma and They got a fever which is great because now the immune system is working well Then they got over it and they didn't flare their psychiatric symptoms.

Then you were like, yes, now the immune system is working normally. I also use medications. I don't throw out medications. I use supplements. I use medications to help with the acute psychiatric symptoms as they present

themselves.

I'm also treating anxiety and depression, but it's a bridge until we get at treating the underlying root causes, it's not a means to an end. Right. Yeah.

And it's important quality of life, right? We need to make sure that the child is experiencing and the family is experiencing quality of life while this usually pretty long and intense healing journey is underway.

And I just really feel for the parents because this stuff is hard for parents. Often, you know, this pans, pandas hits out of the blue and parents don't know what's going on.

Parents don't know how to deal with it. They're often blamed. They're often invalidated when they go to their doc's office. They're Docs often don't know how to treat this and the journey for parents can be very, very difficult.

And so parents need a lot of validation and support and help to get through this from a psychiatric perspective, a behavioral perspective, as well as treating the actual infections.

Yeah. So what are the most important messages you want families and practitioners to take away about the biological basis of mental health issues and kids and where we're failing them?

I think the most important message is that sudden onset psychiatric symptoms in previously healthy children should trigger an infectious disease workout, not just a psychiatric evaluation, mental, illnesses do not appear overnight, but autoimmune encephalitis from infection does.

And unfortunately, psychiatry is one of the few specialties that we don't routinely run physiological tests or evaluate the primary organ, which is the brain.

So, you know, we're failing these children by just accepting the psychiatric labels without investigating the root causes. So when a child like a 10 year old suddenly develops severe OCD literally overnight, that's not a psychiatric illness.

That's a medical illness affecting the brain. So that child needs a medical workup. not just a psychiatric evaluation. And parents need to trust their instincts.

Parents know their kids better than anyone. So if they've fundamentally changed after an illness or a camping trip or moved to a new area, push for infection testing, regardless of what the first practitioner that they see says.

And then for practitioners, that paradigm shift needs to happen. So start thinking of the brain as an organ that can become infected, that can become inflamed, not just a site of chemical imbalances.

Psychiatric symptoms can be medical symptoms, especially in children. And then I want to offer hope is that so many of these children's are completely treatable.

if we just address the underlying infection or inflammation. So instead of us putting them on lifelong psychiatric medications for conditions that can be cured, we need to be looking for the underlying root cause and addressing that.

So the future of pediatric functional psychiatry or adult functional psychiatry must include infectious disease evaluation. And I offer hope because these infections can be treated and psychiatric symptoms can be resolved.

I couldn't have said it better. So thank you. Thank you so much for being here with all of us. Thank you so much for the opportunity to talk about this.

As you can probably hear, this is a passion and I want more people to know about this. Yes. And I'm so excited to listen to your lecture at the Lime Bytes Symposium.

So Dr. Zendi, what is your favorite part of the Lime Bytes Symposium? This is going to be your second year speaking. I love getting together with other practitioners.

There's such a synergy and an energy of actually being in person with other practitioners, solving this medical mystery together. So that is always invigorating for me.

Wonderful. Thank you. So for those of you listening, if you want to hear Dr. Zendi's formal presentation on all of this, everything that we've talked about and more, tune into the Lime Bites Symposium November 14th and 15th.

You can come in person. It's at the Pompano Beach Marriott in Fort Lauderdale, Florida. Or you can join us virtually from anywhere. So again, I'm so excited to hear your actual lecture on all of this.

Thank you so much, Mariah. I really appreciate it. Absolutely. And thank you all for listening to the Lime Bites podcast. I hope this brought you one step closer to true healing.

And if it helps you share it with someone who needs to hear this too, because together we all heal stronger. Take care. Thank you for tuning in to Doctor Talks.

We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your wellbeing.

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